

## JOSEPH P. BALTHASAR

### *Office Address*

521 Hochstetter Hall  
Department of Pharmaceutical Sciences  
University at Buffalo  
State University of New York  
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### *Home Address*

7 Ravenwood Drive  
Lancaster, New York  
14086  
716-684-4544

## EDUCATION

### **Ph.D. Pharmaceutics**

State University of New York at Buffalo

- January, 1996

- Dissertation: Optimization of intraperitoneal cancer chemotherapy with anti-drug antibodies

Advisor: Dr. Ho-Leung Fung

Committee: Dr. Ho-Leung Fung, Dr. William Jusko, Dr. Robert Straubinger, Dr. Thomas Kalman

### **Bachelor of Science, Pharmacy**

State University of New York at Buffalo

- May 1991

## POSITIONS HELD

July 2003 – present: Associate Professor, Department of Pharmaceutical Sciences, University at Buffalo, State University of New York

December 1999 – June 2003: Assistant Professor, Department of Pharmaceutical Sciences, University at Buffalo, State University of New York

February 1997 – December 1999: Assistant Professor, Department of Pharmaceutics and Pharmaceutical Chemistry, University of Utah

January 1996 – February 1997: Clinical Assistant Professor, Department of Pharmaceutics, State University of New York at Buffalo

June 1995 – October 1995: Editorial Assistant, The Journal of Pharmaceutical Sciences

March 1993 – September 1995: Part-time Staff Pharmacist, Buffalo General Hospital, Buffalo, New York

January 1994: Pharmacokinetics Consultant, Buffalo General Hospital, Buffalo, New York

September 1991 – February 1995: Part-time Staff Pharmacist, Niagara Falls Memorial Medical Center, Niagara Falls, New York

## TEACHING

### UNIVERSITY OF UTAH

#### Class Coordinator & Chief Lecturer

PHCEU 405: Clinical Pharmacokinetics, Department of Pharmaceutics and Pharmaceutical Chemistry (Spring 1998).

PHCEU 789: Research Seminar; Department of Pharmaceutics and Pharmaceutical Chemistry (Fall 1997/Fall 1999).

PHCEU 5513: Introduction to Pharmacokinetics and Biopharmaceutics, Department of Pharmaceutics and Pharmaceutical Chemistry (Fall 1999).

#### Lecturer

PHM 7325: Applied Pharmacokinetics, University of Utah, Department of Pharmacy Practice (Spring 1999)

PHCEU 7030: Drug Delivery, University of Utah, Department of Pharmaceutics and Pharmaceutical Chemistry (Fall 1998, Fall 1999)

PHTX 6610: Principles of Pharmacology and Toxicology, University of Utah, Department of Pharmacology and Toxicology (Fall 1998, Fall 1999)

PHRM 5113: Basics in Pharmaceutical Sciences, Department of Pharmacy Practice (Fall 1998, Fall 1999)

CL PH 705: Applied Pharmacokinetics; Department of Pharmacy Practice (Spring 1998)

PHCEU 614: Systems Approach to Drug Delivery; Department of Pharmaceutics and Pharmaceutical Chemistry (Spring 1997)

PHARM 411: Introduction to Pharmaceutical Sciences, Department of Pharmacy Practice (Spring 1998)

### UNIVERSITY AT BUFFALO, THE STATE UNIVERSITY OF NEW YORK

#### Class Coordinator & Chief Lecturer

PHC 412: Introduction to Pharmacokinetics and Biopharmaceutics 2, Department of Pharmaceutical Sciences (Spring 2001, 2002, 2003, 2004)

PHC 413: Pharmaceutics Seminar, Department of Pharmaceutical Sciences (Fall 2000)

PHC 414: Pharmaceutics Seminar, Department of Pharmaceutical Sciences (Spring 2001)

PHC 532: Introduction to Pharmacokinetics and Biopharmaceutics 2, Department of Pharmaceutical Sciences (Spring 2001, 2002, 2003, 2004)

PHC 607: Intermediate Pharmacokinetics, Department of Pharmaceutical Sciences (Fall 2000, 2001, 2002, 2003)

PHC 613: Pharmaceutics Seminar, Department of Pharmaceutical Sciences (Fall 2000)

PHC 614: Pharmaceutics Seminar, Department of Pharmaceutical Sciences (Spring 2001)

#### Lecturer

PHC 608: Advanced Pharmacokinetics, Department of Pharmaceutical Sciences (Spring 2002, 2003, 2004)

PHC 609: Pharmacodynamics, Department of Pharmaceutical Sciences (Spring 2001, 2002, 2003)

PHC407: Selected Topics in Pharmaceutics, Department of Pharmaceutics (Spring 1996)

#### Teaching Assistant

PHC 411: Introduction to Pharmacokinetics, Department of Pharmaceutics (Fall 1993, Fall 1994)

## TEACHING, MENTORING STUDENTS

### GRADUATE STUDENTS

1. Ryan J. Hansen, Ph.D., Pharmaceutical Sciences, University at Buffalo  
Joined lab June 1998, successfully defended Ph.D. dissertation 5/2002  
*Intravenous immunoglobulin effects in experimental models of immune thrombocytopenia.*
2. Evelyn Lobo, Ph.D., Pharmaceutical Sciences, University at Buffalo  
Joined lab August 1997, successfully defended Ph.D. dissertation 8/2002  
*Anti-methotrexate Fab fragments for the optimization of intraperitoneal chemotherapy*
3. Rong Deng, Ph.D. candidate, Pharmaceutical Sciences, University at Buffalo  
Joined lab June 2001  
Tentative dissertation title: *Development and evaluation of liposomal inhibitors of platelet elimination.*

### **Teaching, Mentoring Students, continued...**

4. Jin Chen, Ph.D. candidate, Pharmaceutical Sciences, University at Buffalo  
Joined lab August 2001  
Tentative dissertation title: *Optimization of ip topotecan chemotherapy via inverse targeting*
5. Feng Jin, Ph.D. candidate, Pharmaceutical Sciences, University at Buffalo  
Joined lab February 2002  
Tentative dissertation title: *Acceleration of anti-platelet antibody elimination in immune thrombocytopenia*
6. Amit Garg, graduate student, Pharmaceutical Sciences, University at Buffalo  
Joined lab March 2003  
Tentative dissertation title: *Application of PBPK to characterize the influence of FcRn on IgG tissue distribution and elimination*
7. Saed Khammash, graduate student, Pharmaceutical Sciences, University at Buffalo  
Joined lab August 2003  
Tentative dissertation title: *Modulation of methotrexate PKPD for optimization of intraperitoneal chemotherapy*
8. Kate Getman, BS/MS student, Pharmaceutical Sciences, University at Buffalo  
Joined lab June 2002  
Tentative dissertation title: *Evaluation of the effects of a novel FcRn inhibitor on the disposition of monoclonal IgG antibodies in rats*
9. Shweta Surva, MS student, Pharmaceutical Sciences, University at Buffalo  
Joined lab Fall 2003  
Tentative dissertation title: *Use of lipid infusion for regio-specific alteration of vinorelbine disposition*

### **UNDERGRADUATE STUDENTS**

1. Robert Horton, participant in the Department of Pharmaceutics and Pharmaceutical Chemistry Summer Research Program, University of Utah, Summer 1997
2. Fred Dawson, participant in the Department of Pharmaceutics and Pharmaceutical Chemistry Summer Research Program, University of Utah, Summer 1999
3. Zia R. Tayab, Department of Pharmaceutical Sciences, University at Buffalo, 6/00– present
4. Chris Wallen, Department of Pharmaceutical Sciences, University at Buffalo, 2/01–6/01
5. Agnes Chan, Department of Pharmaceutical Sciences, University at Buffalo, 8/01– 12/01
6. Kenneth Chen, Department of Pharmaceutical Sciences, University at Buffalo, 8/01– 5/02
7. Eric Sawey, Department of Pharmaceutical Sciences, University at Buffalo, 8/01– 5/02
8. Danny McNatty, Pharm.D. student, School of Pharmacy, University at Buffalo, 1/03– present

### **TEACHING, DISSERTATION COMMITTEE MEMBER**

1. Zhidong Chen, Dissertation title: 'Identification of optimal target sequences for antisense, ribozyme-, an decoy-mediated gene inhibition', Major Advisor: Duane Ruffner, Ph.D., Ph.D. conferred 2/1999
2. Loksiddh Devi Ramkissoon-Ganorkar, Dissertation title: 'N-Isopropylacrylamide copolymers for modulated gastrointestinal drug delivery', Major Advisor: Sung Wan Kim, Ph.D., Ph.D. conferred 5/1999

***Teaching, Dissertation Committee Member, continued...***

3. Donald Mager, Major Advisor: William Jusko, Ph.D. Dissertation title: 'Pharmacokinetics and pharmacodynamics of selected immunomodulatory agents', Major Advisor: William Jusko, Ph.D., Ph.D. conferred 7/2002
4. Jin Yan Jin, Major Advisor: William Jusko, Ph.D. (Ph.D. Candidate at the University at Buffalo)
5. Doanh Tran, Major Advisor: Ho-Leung Fung, Ph.D. (Ph.D. Candidate at the University at Buffalo)
6. Jian Xu, Major Advisor: Ho-Leung Fung, Ph.D. (Ph.D. Candidate at the University at Buffalo)
7. Mahesh Samtani, Major Advisor: William Jusko, Ph.D. (Ph.D. Candidate at the University at Buffalo)
8. Vivek Purohit, Major Advisor: S.V. Balasubramanian, Ph.D. (Ph.D. Candidate at the University at Buffalo)
9. Yan Ji, Major Advisor: Marilyn Morris, Ph.D. (Ph.D. Candidate at the University at Buffalo)
10. Joseph Raybon, Major Advisor: Kathleen Karlinski Boje, Ph.D. (Ph.D. Candidate at the University at Buffalo).

**GRANTS PENDING**

1. NIH, R01 CA95612-01 *Pharmacology of adjuvants for inverse targeting*, \$684,702 (total)  
**Principal Investigator**  
***Priority Score 208, Percentile 32.4%; Resubmission planned for 7/1/04***

**GRANTS AWARDED**

National Institutes of Health AI060687-01

**Principal Investigator**

*FcRn Inhibitors for Antibody-Mediated Immune Conditions,*

May 1, 2004 – April 30, 2008, \$1,375,382 (total), \$900,000 (direct)

American Association of Colleges of Pharmacy

**Principal Investigator**

Fellowship for Danny McNatty: *Humanization of anti-methotrexate monoclonal antibodies*

Awarded May, 2003; \$5,500 (total), \$5,500 (direct)

Kapoor Foundation

**Principal Investigator**

*Pharmacology of adjuvants for inverse targeting*

Awarded June, 2002; \$20,000 (total), \$20,000 (direct)

National Institutes of Health

**Co-Investigator** (S. V. Balasubramanian, PI)

*Development and pharmacology of novel lipidic rAHF,*

April 1, 2002 – March 31, 2006, \$762,736 (total), \$500,000 (direct)

National Institutes of Health

**Principal Investigator**

*Pharmacology and bioengineering of new treatments of ITP*

April 11, 2001 – March 31, 2005, \$1,046,706 (total), \$775,000 (direct)

### ***Grants awarded, continued...***

American Association of Colleges of Pharmacy, New Investigators Program for Pharmacy Faculty

**Principal Investigator**

*Optimization of intraperitoneal chemotherapy through the use of anti-drug antibody therapy.*

Awarded October, 1997; \$12,500 (total), \$12,500 (direct)

Parenteral Drug Association, Faculty Development Grant

**Principal Investigator**

*Inverse targeting with anti-drug antibodies: A new approach of optimizing chemotherapy.*

Awarded June, 1997; \$20,000 (total), \$20,000 (direct)

University of Utah, College of Pharmacy Research Support Grant

**Principal Investigator**

*Antineoplastic diffusivity: Implications for intraperitoneal chemotherapy of ovarian cancer.*

Awarded June, 1997; \$5,000 (total), \$5,000 (direct)

University of Utah, Research Instrumentation Committee

**Principal Investigator**

*Equipment for pharmacokinetic and pharmacodynamic analyses.*

Awarded June, 1997; \$50,000 (total), \$50,000 (direct)

University of Utah, Research Project Grant

**Principal Investigator**

*Optimized IP chemotherapy of experimental ovarian cancer.*

Awarded May, 1997; \$6,000 (total), \$6,000 (direct)

SUNY at Buffalo, Invention Commercialization Enhancement Grant

**Principal Investigator**

*Anti-resistance antibiotic oligonucleotides, Awarded August, 1995; \$9,500 (total), \$9,500 (direct)*

### **REFEREED JOURNAL ARTICLES**

1. Balthasar J and Fung HL, Utilization of antidrug antibody fragments for the optimization of intraperitoneal drug therapy: studies using digoxin as a model drug. *Journal of Pharmacology & Experimental Therapeutics* **268**(2): 734-9, 1994.
2. Balthasar JP and Fung HL, High-affinity rabbit antibodies directed against methotrexate: production, purification, characterization, and pharmacokinetics in the rat. *Journal of Pharmaceutical Sciences* **84**(1): 2-6, 1995.
3. Balthasar JP and Fung HL, Pharmacokinetic and pharmacodynamic optimization of intraperitoneal chemotherapy. *Life Sciences* **58**(7): 535-543, 1996.
4. Balthasar JP and Fung HL, Inverse targeting of peritoneal tumors: selective alteration of the disposition of methotrexate through the use of anti-methotrexate antibodies and antibody fragments. *J Pharm Sci* **85**(10): 1035-43, 1996.
5. Bauer JA, Balthasar JP and Fung H-L, Application of pharmacodynamic modeling for designing timevariant dosing regimens to overcome nitroglycerin tolerance in experimental heart failure. *Pharmaceutical Research* **14**(9): 1140-45, 1997.
6. Hansen RJ and Balthasar JP, An ELISA for quantification of murine IgG in rat plasma: application to the pharmacokinetic characterization of AP-3, a murine anti-glycoprotein IIIa monoclonal antibody, in the rat. *Journal of Pharmaceutical and Biomedical Analysis* **21**: 1011-1016, 1999.

### Refereed Journal Articles, continued...

7. Lobo ED and Balthasar JP, Highly sensitive high performance liquid chromatographic assay for methotrexate in the presence and absence of anti-methotrexate antibody fragments in rat mouse and plasma. *Journal of Chromatography, B*. **736**: 191-199, 1999.
8. Balthasar JP, Vinorelbine tartrate and heparin sodium incompatibility. *American Journal of Health-System Pharmacy* **56**(Sept 15): 1891, 1999.
9. Balthasar JP, Bioequivalence and bioequivalency testing. *American Journal of Pharmaceutical Education* **63**(2): 194-198, 1999.
10. Hansen RJ and Balthasar JP, Pharmacokinetics, pharmacodynamics, and platelet binding of 7E3, a murine anti-glycoprotein IIb/IIIa monoclonal antibody in the rat. *Journal of Pharmacology and Experimental Therapeutics* **298**(1): 165-171, 2001.
11. Hansen RJ and Balthasar JP, Effects of intravenous immunoglobulin on platelet count and antiplatelet antibody disposition in a rat model of immune thrombocytopenia. *Blood* **100**(6): 2087-2093, 2002.
12. Hansen RJ and Balthasar JP, Intravenous immunoglobulin mediates an increase in antiplatelet antibody clearance via the FcRn receptor. *Thrombosis and Haemostasis* **88**(6): 898-899, 2002.
13. Lobo ED and Balthasar JP, Pharmacodynamic modeling of chemotherapeutic effects: Application of a transit compartment model to characterize methotrexate effects in vitro. *AAPS PharmSci*, article 42  
[http://www.aapspharmsci.org/scientific\\_journals/pharmsci/journal/ps040442.htm](http://www.aapspharmsci.org/scientific_journals/pharmsci/journal/ps040442.htm), 2002
14. Hansen RJ and Balthasar JP, IVIG effects on antiplatelet antibody levels and on platelet opsonization in ITP. *Blood* **101**(4): 1659, 2003.
15. Hansen RJ and Balthasar JP, PK/PD modeling of the effects of intravenous immunoglobulin on the disposition of antiplatelet antibodies in a rat model of immune thrombocytopenia. *Journal of Pharmaceutical Sciences*, **92**(6): 1206-1215, 2003.
16. Lobo ED and Balthasar JP, Pharmacokinetic-pharmacodynamic modeling of methotrexate-induced toxicity in mice. *Journal of Pharmaceutical Sciences*, **92**(8): 1654-1664, 2003.
17. Lobo ED, Soda DM and Balthasar JP, Application of pharmacokinetic - pharmacodynamic modeling to predict the kinetic and dynamic effects of anti-methotrexate antibodies in mice. *Journal of Pharmaceutical Sciences*, **92**(8): 1665-1676, 2003.
18. Wang EQ, Balthasar JP and Fung HL, Pharmacodynamic modeling of in vivo nitroglycerin (NTG) tolerance in conscious rats: Effects of dose and dosage regimen. *Pharmaceutical Research*, **21**(1): 114-120, 2004.
19. Hansen RJ and Balthasar JP, Mechanisms of IVIG action in ITP, *Clinical Laboratory*, **50**(3/4): 133-140, 2004.
20. Hansen RJ and Balthasar JP, IVIG effects on autoantibody elimination, *Allergy*, 2004, in press.
21. Tayab ZR and Balthasar JP, Development and validation of enzyme-linked immunosorbent assays for quantification of anti-methotrexate IgG and Fab in mouse and rat plasma. *Journal of Immunoassay and Immunochemistry*, 2004, in press.
22. Ishida Y, Soda H, Oka M, Tsurutani J, Fukuda M, Kinoshita A, Kinoshita H, Balthasar JP, Kohno S, Population pharmacokinetics-pharmacodynamic modelling of lenograstim (rhG-CSF) in healthy volunteers and lung cancer patients, *British Journal of Clinical Pharmacology*, 2004, submitted

### ***Refereed Journal Articles, continued...***

23. Lobo ED, Hansen RJ, Balthasar JP, Pharmacokinetics and pharmacodynamics of antibodies. *Journal of Pharmaceutical Sciences*, 2004, in press.
24. Chen J and Balthasar JP, High-performance liquid chromatographic assay for the determination of total and free topotecan in the presence and absence of anti-topotecan antibodies in mouse plasma. *Journal of Chromatography B*, 2004, submitted.
25. Balthasar JP, Mechanisms of intravenous immunoglobulin in immune thrombocytopenic purpura. *Human Immunology*, 2004, invited review, in preparation.
26. Balthasar JP, Ballow M, IVIG effects on autoantibody elimination: An important mechanism of IVIG action in ITP?. *Journal of Allergy and Clinical Immunology*, 2004, in preparation.
27. Jin F and Balthasar JP, Pharmacokinetic and Pharmacodynamic Effects of High-Dose Monoclonal Antibody Therapy in a Rat Model of Immune Thrombocytopenia. *Journal of Pharmacology and Experimental Therapeutics*, 2004, in preparation.
28. Deng F and Balthasar JP, Investigation of antibody-coated liposome as a new treatment for immune thrombocytopenia in vivo and in vitro. *Blood*, 2004, in preparation.
29. Balthasar JP, High performance liquid chromatographic assay for the quantification of vinorelbine in rat plasma and whole blood. *Journal of Chromatography B*, 2004, in preparation.
30. Balthasar JP, Alteration of vinorelbine pharmacokinetics and toxicity through co-administration of lipid mixtures. *Journal of Pharmacology and Experimental Therapeutics*, 2004, in preparation.
31. Hansen RJ and Balthasar JP, Application of an in vitro system and pharmacodynamic modeling to probe mechanisms of pooled immunoglobulin effects on antibody secretion. in preparation.

### **ABSTRACTS / CONFERENCE PROCEEDINGS**

1. Balthasar JP, A new method for estimating clearance from pre-steady state pharmacokinetic data. *Sixth Japanese-American Conference on Pharmacokinetics and Biopharmaceutics*, 1992.
2. Balthasar JP and Fung H-L, The production, purification and characterization of high-affinity antibodies directed against methotrexate. *Pharmaceutical Research* 11(8): S-79, 1994.
3. Balthasar JP and Fung H-L, Utilization of anti-drug antibodies for the optimization of intraperitoneal drug therapy: Illustration with digoxin. *FASEB Journal* 8(4): A99, 1994.
4. Balthasar JP and Fung H-L, Optimization of intraperitoneal cancer chemotherapy with anti-drug antibodies: Pharmacokinetic rationale and experimental results. *Pharmaceutical Research* 12(9): S-3, 1995.
5. Fung H-L, Balthasar JP and Bauer JA, Pharmacokinetics and pharmacodynamics of organic nitrate tolerance. *3rd Jerusalem Conference on Pharmaceutical Sciences and Clinical Pharmacology-JC*, 1996.
6. Bauer JA, Balthasar JP and Fung H-L, Rational PK/PD design of infusion regimens to overcome nitroglycerin tolerance development. *Pharmaceutical Research* 13(9): S-445, 1996.
7. Balthasar JP and Scherrmann JM, Hybrid physiologic-compartmental model of digoxin and anti-digoxin Fab (ADF) disposition and interaction: Accuracy in predicting plasma concentration data from patients treated with ADF following intentional digoxin overdoses. *Pharmaceutical Research* 14(11): S-507, 1997.
8. Balthasar JP, Alteration of vinorelbine pharmacokinetics in rats through the infusion of a lipid emulsion. *AAPS PharmSci* 1(4), 1999.

### ***Abstracts, continued...***

9. Lobo ED and Balthasar JP, PK/PD modeling of methotrexate toxicity in mice. *American Journal of Pharmaceutical Education* 63: 71S, 1999.
10. Balthasar JP, HPLC assay for quantification of vinorelbine in rat blood and plasma. *AAPS PharmSci* 1(4), 1999.
11. Hansen RJ and Balthasar JP, Pharmacokinetics and platelet binding of 7E3, a murine anti-GPIIb-IIIa monoclonal antibody, in the rat. *AAPS PharmSci* 1(4), 1999.
12. Hansen RJ and Balthasar JP, Pharmacokinetics and pharmacodynamics of a murine antiplatelet antibody, 7E3: A quantitative passive model of immune thrombocytopenia in the rat. *AAPS PharmSci* 1(4), 1999.
13. Hansen RJ and Balthasar JP, Quantification of a murine monoclonal anti-platelet antibody, AP-3, in rat plasma using an enzyme-linked immunosorbent assay. *AAPS PharmSci* 1(4), 1999.
14. Ludwig EA, Hossfeld MS, Balthasar JP and Brass C, Impact of pharmacist-adjusted initial antibiotic dosage. *Pharmacotherapy* 19(4): 540, 1999.
15. Tayab ZR and Balthasar JP, An ELISA to quantify anti-methotrexate IgG in rat plasma. *22nd Annual Pharmacy Student Research Conference - Eastern States West Virginia University*, 2000.
16. Lobo ED and Balthasar JP, Prediction of agonistic and antagonistic effects of anti-methotrexate antibodies via computer simulation. *AAPS PharmSci* 2(4), 2000.
17. Lobo ED and Balthasar JP, Application of a general time-dissociated pharmacokinetic-pharmacodynamic model to characterize methotrexate induced weight loss in mice. *AAPS PharmSci* 2(4), 2000.
18. Hansen RJ and Balthasar JP, Effects of Pooled Human Immunoglobulin on AntiPlatelet Antibody Production and Platelet Binding, *In Vitro*. *AAPS PharmSci* 2(4), 2000.
19. Hansen RJ and Balthasar JP, Pharmacokinetic /pharmacodynamic investigations into the effects of intravenous immunoglobulin in a rat model of immune thrombocytopenia. *AAPS PharmSci* 3(4), 2001.
20. Lobo ED and Balthasar JP, Paradoxical effect of anti-methotrexate antibodies on methotrexate toxicity: Agonistic and antagonistic effects. *AAPS PharmSci* 3(4), 2001.
21. Wang EQ, Balthasar JP and Fung HL, Pharmacodynamic modeling of in vivo nitroglycerin (NTG) tolerance in conscious rats: Effects of dose and dosage regimen. *AAPS PharmSci* 3(4), 2001.
22. Lobo ED and Balthasar JP, Investigation of the efficacy of methotrexate chemotherapy of mice bearing sarcoma 180 and Ehrlich ascites cells, following four equally toxic dosing protocols. *AAPS PharmSci* 4(4), 2002.
23. Chen J and Balthasar JP, Determination of topotecan in mouse plasma by high-performance liquid chromatographic assay. *AAPS PharmSci* 4(4), 2002.
24. Tayab ZR and Balthasar JP, Development and validation of an enzyme-linked immunosorbent assay for the quantification of anti-methotrexate IgG and Fab in mouse and rat plasma. *AAPS PharmSci* 4(4), 2002.
25. Tayab ZR and Balthasar JP, Application of high-dose monoclonal antibody therapy to saturate FcRn: Investigation of the dose-dependence of the pharmacokinetics of a monoclonal antibody in rats. *AAPS PharmSci* 4(4), 2002.
26. Hansen RJ and Balthasar JP, Investigation of intravenous immunoglobulin effects on antiplatelet antibody disposition in wild-type and FcRn-deficient mice. *AAPS PharmSci* 4(4), 2002.



### ***Abstracts, continued...***

27. Lobo ED and Balthasar JP, Utilization of anti-methotrexate Fab fragments to optimize i.p. methotrexate (MTX) chemotherapy: Dose escalation and enhancement of MTX efficacy in a mouse model of peritoneal cancer. *AAPS PharmSci* 4(4), 2002.
28. Hansen RJ and Balthasar JP, Quantitative analysis of the inhibitory effects of intravenous immunoglobulin on anti platelet antibody production, in vitro. *AAPS PharmSci* 4(4), 2002.
29. Hansen RJ and Balthasar JP, Application of PK/PD modeling for the investigation of mechanisms of intravenous immunoglobulin action in a rat model of immune thrombocytopenia. *AAPS PharmSci* 4(4), 2002.
30. Lobo ED and Balthasar JP, Pharmacokinetic modeling of chemotherapeutic effects: Application of a modified transduction model to characterize methotrexate effects on two cancer cell lines, in vitro. *AAPS PharmSci* 4(4), 2002.
31. Jin F and Balthasar JP, Pharmacokinetic and pharmacodynamic effects of high-dose monoclonal antibody therapy in a rat model of immune thrombocytopenia. *AAPS PharmSci* 5(4), 2003.
32. Chen J and Balthasar JP, Topotecan pharmacokinetics and toxicodynamics in mice. *AAPS PharmSci* 5(4), 2003.
33. Deng R and Balthasar JP, Investigation of antibody-coated liposomes in vivo and in vitro as a therapy for immune thrombocytopenia. *AAPS PharmSci* 5(4), 2003.

### **INVITED SEMINARS AND SPECIAL LECTURES**

Mechanisms and Kinetics of IgG Elimination, (November 2004), Sunrise School, AAPS Annual Meeting, Boston, MA

Pharmacokinetics and Pharmacodynamics of Monoclonal Antibodies, May 2004, University at Buffalo– Leiden/Amsterdam Center for Drug Research Pharmacokinetic– Pharmacodynamic Concepts and Applications Course, Buffalo, New York

Inverse Targeting for Optimization of Intraperitoneal Chemotherapy, May 2004, Department of Biopharmaceutical Sciences, University of Illinois, Chicago, Illinois

Inverse Targeting with Anti-Drug Antibodies, April 2004, University of Kentucky, Division of Pharmaceutical Sciences, College of Pharmacy, Lexington, Kentucky

Pharmacodynamic Analyses for Assessment of Equivalence of Biotech Products, November 2003, Expert Panel on Complex Activities, United States Pharmacopoeia, Rockville, Maryland

Competitive Inhibition of FcRn: An important mechanism of IVIG action?, November 2003, Annual Meeting of the American Association of Blood Banks, San Diego, California

Pharmacokinetics and Pharmacodynamics of Monoclonal Antibodies, May 2003, University at Buffalo– Leiden/Amsterdam Center for Drug Research Pharmacokinetic– Pharmacodynamic Concepts and Applications Course, Buffalo, New York

Application of PK/PD to Investigate Mechanisms of IVIG Action in ITP, May 2003, Division of Pharmaceutics, College of Pharmacy, The Ohio State University, Columbus, Ohio.

Application of Kinetic/Dynamic Mathematical Models to Guide the Development of New Therapies of Immune Thrombocytopenia, March 2003, Department of Chemical Engineering, University of Maryland, College Park, Maryland.

Pharmacodynamic Analyses for Assessment of Equivalence of Biotech Products, January 2003, Expert Panel on Complex Activities, United States Pharmacopoeia, Rockville, Maryland

Role of FcRn in IgG Metabolism: Implications for Therapeutic Antibodies and Autoimmunity, January 2003, Molecular Biopharmaceutics Meeting, Waikiki, Hawaii

***Invited seminars, continued...***

Antibody PK/PD: New Insights & Applications, November 2002, Buffalo Pharmaceuticals Symposium, University at Buffalo, The State University of New York, Amherst, New York

Evidence for a New Mechanism of IVIG Action, October 2002, The University of Michigan, Department of Pharmaceutical Sciences, College of Pharmacy, Ann Arbor, Michigan

Bioreactor Accelerated Immunotoxicotherapy, August 2002, Industrial Science & Technology Network Inc., York, Pennsylvania

Investigation of IVIG Mechanism of Action in ITP: Application of new findings to identify targets for therapy, June 2002, The University of Michigan, Yang Laboratory, Department of Pharmaceutical Sciences, College of Pharmacy, Ann Arbor, Michigan

Application of Kinetic – Dynamic Modeling to Predict Antibody Effects in an Inverse Targeting Strategy, May 2002, University of North Carolina, Division of Drug Delivery and Disposition, College of Pharmacy, Chapel Hill, North Carolina

Case Study: Application of PK/PD Modeling to Delineate Mechanisms of IVIG Action in Immune Thrombocytopenia, May 2002, Georgetown University Center for Drug Development Science: Workshop on 'Physiologically Based Pharmacokinetics in Drug Development and Regulatory Science', Washington, DC

Monoclonal Antibodies, May 2002, University at Buffalo– Leiden/Amsterdam Center for Drug Research Pharmacokinetic– Pharmacodynamic Concepts and Applications Course, Buffalo, New York

New Insights Into the Mechanism of IVIG Action in Immune Thrombocytopenia, April 2002, University of Kentucky, Division of Pharmaceutical Sciences, College of Pharmacy, Lexington, Kentucky

Pharmacokinetics and Pharmacodynamics of Monoclonal Antibodies, May 2001, University at Buffalo– Leiden/Amsterdam Center for Drug Research Pharmacokinetic – Pharmacodynamic Concepts and Applications Course, Buffalo, New York

Pharmacokinetics and Pharmacodynamics of Antibodies, May 2000, University at Buffalo– Leiden/Amsterdam Center for Drug Research Pharmacokinetic – Pharmacodynamic Concepts and Applications Course, Buffalo, New York

Pharmacology and Bioengineering of New Treatments for Immune Thrombocytopenia, January 2000, The University of Michigan, Yang Laboratory, Department of Pharmaceutics, College of Pharmacy, Ann Arbor, Michigan

Animal Models of Immune Thrombocytopenia: Application for the Development and Evaluation of New Treatments for ITP, January 2000, University at Buffalo, Department of Pharmaceutics, Buffalo, New York

Inverse Targeting: New Approaches of Enhancing the Selectivity of Ovarian Cancer Chemotherapy, August 1999, University at Buffalo, Department of Pharmaceutics, Buffalo, New York

Inverse Targeting: A New Approach for Enhancing the Selectivity of the Chemotherapy of Peritoneal Tumors, July 1999, Huntsman Cancer Institute, Salt Lake City, Utah

Understanding the Influence of Drug Formulation on PK/PD: Introduction of a New Inverse Targeting Approach, May 1999, Lipocine Inc., Salt Lake City, Utah

Optimization of Cancer Chemotherapy, February 1999, Utah State University, Department of Chemistry, Logan, Utah

Optimization of intraperitoneal cancer chemotherapy with anti-drug antibodies: Pharmacokinetic rationale and experimental results, November 1995, American Association of Pharmaceutical Scientists, Eli Lilly Graduate Symposium, Miami, Florida

## **PROFESSIONAL ASSOCIATIONS**

American Association of Colleges of Pharmacy  
American Association of Pharmaceutical Scientists  
American Society for Pharmacology and Experimental Therapeutics

## **PROFESSIONAL SERVICE**

### **Scientific Reviewer**

Blood, Pharmaceutical Research, Drug Metabolism and Disposition, Journal of Pharmaceutical Sciences, AAPS PharmSci, Biochemical Pharmacology, Journal of Controlled Release, British Journal of Clinical Pharmacology

### **Committee Member, Grant Review**

- National Institutes of Health, Bacterial Biodefense (IDMA) Study Section, February 2004
- National Institutes of Health, Bacterial Biodefense (IDMA) Study Section, November 2003
- National Institutes of Health, Biodefense and Virology (SSS-Q) Study Section, July 2003
- National Institutes of Health, Pharmacology (PHRA) Study Section, June 2003
- National Institutes of Health, Bioterrorism and Therapeutics (SSS-Q) Study Section, March 2003
- National Institutes of Health, Bioterrorism and Therapeutics (SSS-Q) Study Section, November 2002
- American Association of Colleges of Pharmacy, New Investigators Program, Committee member and Chair, Pharmaceutics Review Section, 2002
- American Association of Colleges of Pharmacy, New Investigators Program, Committee member and Chair, Pharmaceutics 'B' Review Section, 2000
- University of Utah, College of Pharmacy Research Program, Review committee member, 1998 and 1999

### **Committee Member, National Associations**

- AAPS, BIOTECH Section, Planning Committee, 2005 National Biotechnology Meeting (June 2005, San Francisco)
- Expert Panel on Complex Activities, United States Pharmacopoeia, 2003
- American Association of Colleges of Pharmacy, Committee for Graduate Education, Scholarship, and Research, University of Utah College of Pharmacy Liaison, 1998-1999.
- American Association of Pharmaceutical Sciences Education Committee, 1993– 1995.
- American Association of Pharmaceutical Sciences PPDM Education Sub-Committee 1993 – 1994.

## **UNIVERSITY SERVICE**

### **Committee Member, College / School**

- University at Buffalo, School of Pharmacy and Pharmaceutical Sciences, Curriculum Committee, 2000- present
- University of Utah, College of Pharmacy Curriculum Committee, 1998-1999
- University of Utah, College of Pharmacy Learning and Teaching Committee, 1997-1999

### **Committee Member, University**

- University at Buffalo, Radiation Safety Committee, member, 2000- present
- University at Buffalo, Radiation Safety Committee, Chair, 2004- present
- University at Buffalo, Graduate School Advisory Committee on Electronic Theses and Dissertations, 2000
- University of Utah, Clinical Institutional Review Board, 1999
- University of Utah, Technology Transfer Advisory Committee, 1999

## **AWARDS/HONORS**

University at Buffalo, Top 100 Federal Grantee, 2002  
University at Buffalo, Young Investigator Achievement Award, 2002  
AAPS PPDM Annual Meeting Travel Award, 2001  
University of Utah, College of Pharmacy Distinguished Teaching Award, 1998  
AACP New Investigator Award, 1997-1999  
AAPS / Eli Lilly Graduate Symposium Award, 1995  
AFPE Pre-doctoral Fellowship  
SUNY at Buffalo Department of Pharmaceutics Graduate Scholar Award

***Awards/Honors continued...***

Schering-Plough Pre-doctoral Fellowship  
Rho-Chi Honor Society  
SUNY at Buffalo School of Pharmacy Scholarship  
New York State Regents Scholarship  
Western New York Science Congress, Bronze Medal

**LICENSES**

New York State Pharmacy License (040627-1)